

We claim:

- 1 1. A method for detecting a plurality of signals comprising the steps of:
 2 measuring a strength of signals being transmitted on a frequency associated with
 3 a signal to be detected;
 4 determining an integration time period based on the measured strength of
 5 signals; and
 6 searching for the signal to be detected using a correlator for the determined
 7 integration time period.
- 1 2. The method of claim 1, wherein the integration time period is determined in a manner
 2 inverse to the measured strength of signals.
- 1 3. The method of claim 1, wherein the integration time period is determined using a curve.
- 1 4. The method of claim 1, wherein the integration time period is determined using a
 2 mathematical equation.
- 1 5. The method of claim 1, wherein the integration time period is maximized if the measured
 2 strength of signals is below a threshold value.
- 1 6. The method of claim 5, wherein the integration time period is minimized if the measured
 2 strength of signals is above or equal to a threshold value.
- 1 7. The method of claim 1, wherein the frequency is an estimated frequency for the signal to
 2 be detected.
- 1 8. The method of claim 7, wherein the estimated frequency is based on a reference point
 2 within a sector in which a receiver is located.
- 1 9. The method of claim 1 comprising the additional step of:
 2 receiving a search message indicating the frequency associated with the signal to
 3 be detected.

- 1 10. The method of claim 1, wherein the frequency is a frequency at which the signal to be
2 detected was transmitted.
- 1 11. The method of claim 1 comprising the additional steps of:
2 measuring a strength of signals being transmitted on a frequency associated with
3 a second signal to be detected;
4 determining a second integration time period based on the measured strength of
5 signals; and
6 searching for the second signal to be detected using a correlator for the
7 determined second integration time period.
- 1 12. The method of claim 1, wherein the step of determining the integration time periods
2 include the step of:
3 determining a power spectrum density ratio.
- 1 13. The method of claim 12, wherein a long integration time period is determined if the
2 power spectrum density ratio is small.
- 1 14. The method of claim 12, wherein a short integration time period is determined if the
2 power spectrum density ratio is large.